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CONTINUING EDUCATION IN PHARMACY. A REPORT.

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PHARMACEUTICAL ASSN. PROVINCE OF BRITISH COLUMBIA

PUB DATE MAR 65

EDRS PRICE MF-$0.25 HC-$1.32 31P.

DESCRIPTORS- *PHARMACISTS, *PROFESSIONAL CONTINUING EDUCATION, SURVEYS, EDUCATIONAL NEEDS, RECRUITMENT, TEACHING TECHNIQUES, PROGRAM ADMINISTRATION, FINANCIAL POLICY, EVALUATION, AUDIOVISUAL AIDS, PROGRAMED INSTRUCTION, CANADA, BRITISH COLUMBIA,

THIS REPORT ON CONTINUING EDUCATION FOR PHARMACISTS IN BRITISH COLUMBIA EXAMINES EDUCATIONAL NEEDS IN THE TECHNICAL, SOCIAL, AND ECONOMIC ASPECTS OF A PHARMACIST'S CAREER. A DISCUSSION IS THEN PRESENTED OF EXISTING PROGRAMS IN BRITISH COLUMBIA AND AT THREE AMERICAN UNIVERSITIES, THE AIMS OF A PROPOSED SYSTEM OF PROFESSIONAL, MANAGERIAL, AND GENERAL EDUCATION FOR PHARMACISTS, THE RECRUITMENT OF TEACHING STAFF AND PARTICIPANTS, PROGRAM ORGANIZATION AND COORDINATION, FINANCIAL SUPPORT, PROGRAM PHASING AND EVALUATION, AND THE USE OF SUCH TECHNIQUES AND AIDS AS TAPE RECORDINGS, TELELECTURES, EDUCATIONAL TELEVISION, STUDY GROUPS, CORRESPONDENCE STUDY, PROGRAMED INSTRUCTION, AND STORE VISITATIONS. (LY)

AE000 877
Oct 1967
ED019545

CONTINUING EDUCATION IN PHARMACY

A Report

by

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AG 000 877C

THE PHARMACEUTICAL ASSOCIATION OF THE PROVINCE OF BRITISH COLUMBIA
MARCH, 1965

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FORWARD

The Council of the Pharmaceutical Association of the Province of British Columbia in 1963, recognizing the need for a vast expansion of continuing education service to the pharmacists of the province, commissioned Professor F.A. Morrison, Assistant Dean of the Faculty of Pharmacy at the University of British Columbia to conduct an on-the-spot investigation of such services in several states and provinces of the U.S.A. and Canada.

Professor Morrison's comprehensive report of October 1963 led to the establishment of a study project on the need, feasibility and potential of a full-scale continuing pharmaceutical education program in British Columbia and the subsequent appointment of Gordon B. Hewitt, B.A., B.S.P., as Director of Continuing Education to conduct the study. Grateful acknowledgement is made of the financial assistance received for this undertaking from the Canadian Foundation for the Advancement of Pharmacy and National Health Grants.

Mr. Hewitt has been the beneficiary of invaluable guidance and assistance in his study from Dean A.W. Matthews, Professor Morrison and others of the U.B.C. Faculty of Pharmacy staff and from Dr. J.K. Friesen and Mr. G. Selman and many members of their staff at the Department of University Extension. Consultative assistance and advice have been generously rendered by Dr. D.H. Williams, Head of the Department of Continuing Medical Education at U.B.C., Dr. W.R. Upton, Executive Secretary of the B.C. Dental Association, and others too numerous to mention. To all, our thanks.

The report following herewith constitutes the work of many persons, the contribution of many agencies and the realization of a great need.

Douglas A. Denholm, B.S.P.,
Registrar,
Pharmaceutical Association of the
Province of British Columbia.

THE NEED

The need for continuing education exists in all the phases of a pharmacist's activities; that is, in the technical, the social and the economic aspects of the day-to-day fulfilling of his duties and obligations.

The Technical Imperative

Remington's Practice of Pharmacy states:

> "The pharmacist by virtue of his specialized knowledge* and by the exercise of good judgment in its use, has been given by law certain rights and privileges with regard to the compounding and distribution of drugs and medicines". [1]

We must note that the wording does not say by virtue of a degree granted and we need to understand that specialized knowledge is only possessed by keeping up to the rapidly advancing science and by replacing the normal decline due to forgetting one's basic training.

The technical duties of a pharmacist include filling prescriptions and satisfying customer requests for information about non-prescription products and, when he has demonstrated his ability, answering physicians' requests for information about prescription pharmaceuticals.

The changing requirements of technical competence are obvious when we consider that about 90% of the new prescriptions filled in any one year are for materials that were not available ten years previously. [2] Similar changes take place in "front shop" medicinals.

Therapeutic incompatibilities are arising in modern pharmacology. These occur in all the broad ranges of medication and even extend into the use of certain food materials concurrent with medication. Incompatibility situations are arising in the uses and abuses of products which often fall only within the realm of activity of an alert pharmacist. Modern pharmaceutical compounds being highly effective and highly specific can also be highly dangerous. These therapeutic incompatibilities are replacing in importance the older, simpler, chemical incompatibilities such as "Will it cause a precipitate?". To protect the health and safety of the patient, educational competence at a current literature level is required.

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* The underlining is this author's.

1 Remington's Practice of Pharmacy, 12th Edition, 1961, p. 28.

2 Robert H. Hensel, Sales Manager, Lederle Laboratories Division, Cyanamid Corporation. Reported in N.A.R.D. Journal, December 7th, 1964, p. 51.

The advances of the pharmaceutical sciences have arrived at the point where competence cannot be maintained from the literature unless the reader has correspondingly advanced his basic background training. Active and meaningful participation in refresher courses is required to maintain one's ability to understand the literature. The rapidity of scientific advance is affecting the professional curriculum which is now stressing the need to keep on learning rather than merely to accumulate facts which may be obsolete very shortly after the student graduates.

Lack of technical competence is not tolerated in admitting graduates to the profession. It must not be tolerated as a result of obsolescence of training which is not renewed by re-education processes. Competence is an obligation of the profession to the public. Maintaining competence must be a responsibility of licensing bodies supported by the Pharmacy Faculty and allied groups.

Technical competence, once primarily mechanical skills in compounding, is now enlarged into the requirement of a high degree of scientific proficiency in therapeutics and toxicology as well as in the basic techniques, in product familiarity and in background scientific knowledge. The evolution from compounding of relatively non-specific, benign materials has increased the technical stature of pharmacy.

Modern dispensing of today's "pure" drugs of specific and often dramatic effectiveness requires a different, though greater, technical skill. As tablets are counted out, the unseen operations of correct labelling; checking dosage and mode of use, therapeutic compatibility, identification and reliability of source of supply; safeguarding by proper storage and preservation; triple checking care in all above operations; all require a high degree of technical excellence.

The rising complexity of medical care together with the ever-increasing demand for greater cradle-to-grave medical surveillance will lead physicians and the public to look more and more to informed pharmacists for professional service.

The Social Imperative

What is the professional service which society expects from the pharmacist? This service exists in four realms:

(a) In the realm of technical services;
(b) In the professional responsibility to fulfill social obligations;
(c) In the requirements of his business functions; and
(d) In the requirement to maintain his image as a professional governed by ethical behaviour.

In technical functions the pharmacist will be required to absorb some of the physician's load. Increasing average age levels, medical insurance and welfare programs and the generally rising standard of living all increase the calls upon physicians. This burden must be shared among the health services. A clinic approach is envisioned with the pharmacist acting as therapeutic consultant. This level has been attained in some pharmacies and in many hospitals where pharmacists contribute heavily to, or even direct, therapeutic advisory boards or committees.

As medical science advances the public has the right to expect pharmacists to advance with it and to supply the maximum pharmaceutical service in the most efficient manner possible. Today's specific medications, acting on the very life processes of the body, present new complications and hazards, even in simple cold remedies, from which society has every right to expect pharmacy to protect the individual's health and indeed his life. The rapidity and technical complexity of the changes soon overwhelm a pharmacist who does not develop a continuous system of study to keep up to his profession. Improvement in academic qualifications at graduation is soon negated by the actions of the pharmacist who may have received no increments of training for ten years or more. *

Professional stature is measured in part by one's contribution to society. Pharmacists all too often neglect the social aspect of professionalism. The hospital pharmacist must take part in the functions of the hospital and outside world activities beyond his sphere of duty. The retail and manufacturing members of the profession must accept the social duties of professional status in community service. As merchandising pressures fog the professional image of pharmacists, directed activity in the social field is one means available to restore and brighten the image.

Historically, the image of the pharmacist as a leader of the small community is real and clear. Guidance must be supplied to restore in the minds of pharmacists the realization that to be a fulfilled professional the individual must strive for, not shun, opportunities to expand in society. The successful pharmacist must join such groups as service clubs, school boards, hospital boards, fund drives, etc.

Continuing education must assist in locating deficiencies in such activities and in supplying training aids to pharmacists endeavouring to meet the personal demands of such programs. Such aids might well include the supplying of speech outlines, public speaking training, and eventually an integrated exchange of experiences among pharmacists in extra-business activities. Indeed, such exchanges are of great value in all business and professional activities.

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* B.C.Ph.A. figures indicate that over 75% of today's practising pharmacists fall within this category.

In the realm of business function, economic survival and public demand forces pharmacists to maintain modern, well-located pharmacies, attractively and effectively merchandised. The laws of economics work to eliminate poorly located pharmacies and over-population of outlets in some regions.

Dispensing of prescriptions is a matter of importance to the customer's health. The freedom of choice, rarely even restricted by geography where delivery services and the automobile shopping habits allow free selection, eliminates the pharmacist who allows his professional department to fade into a clutter of carded toys, displays of pocket combs, etc., blocking out an otherwise far from prominent dispensary area or drug section of the store. Too often the dispensary, being the only counter area not consumed by the avarice for display space in the rush to sundry, volume-maintaining merchandise, becomes covered by returned items, miscellaneous bookkeeping files and so on. Very often a radio blasts out incongruous football games and such - these often audible to the doctor and patient phoning in - leaving a professionally depleted individual moaning the loss in his dispensing volume.

In front store merchandising the public or society expects the corner pharmacy to change with the times and to maintain a lead in appearance and in merchandising activities. Pharmacy is a complex profession. One of the complexities is the many aspects or faces it presents to the public. Doctors, dentists, lawyers, etc. usually have a simple office to maintain in a presentable, prestige-generating state and usually only one or two assistants representing them to the public. The retail pharmacist may have a complex store to present. It must be redecorated in its displays very frequently. Because of its heavy traffic it presents cleaning and maintenance problems experienced by few other types of small organizations. It must be modern, clean and attractive. Today a store which has not been remodelled in ten years is likely about to be closed. Most chain organizations feel that a new store is obsolete in five years.

The pharmacist in attending to his professional functions must give over a large part of his customer contacts to clerks in whose hands he must leave his store personality. Continuing education can function to bring new developments in store display, merchandising techniques and personnel management training to the attention of work-bound pharmacists. It can supply training aids for pharmacists and staff to enable both to meet new challenges as they appear.

Society expects pharmacists to maintain their professional image which is sometimes undermined by reportings in such mass communication media as radio, television and newspaper and also by some pharmacists' actions in society. The personal aspects of the public's contact with pharmacists require a high standard of behaviour which is referred to as professional ethics.

The nature of professional prestige is an important concern of the sociologist and it might be hoped that a study of pharmacy will one day be

undertaken. In the meantime we can assume that prestige is elevated by competence in technical, social and business behaviour and is conversely lowered by incompetence in these activities.

The existence of a program of continuing education per se should elevate the reporting on the profession. It would be logical to expect that well informed members of the profession would be equipped to answer and counteract detrimental opinions and actions before these arise in public view. For example, a prestige damaging situation is the current controversy over "generic" drugs and "generic" prescribing. In some quarters the pharmacist has been labelled as the villain of the piece. An informed professional has no hesitation in meeting the criticism and no difficulty in pointing out the requirements of high professional motives in handling generic dispensing.

The Economic Imperative

The economic advancement of an individual in a free enterprise system will occur only when the contribution of that individual increases in value to society. Pharmacists have given over much of their traditional merchandising functions to other outlets because the service offered in the areas of this merchandising has had no greater, nay even less, value to the purchaser than that offered by the other outlets. A poor selection as to brands covered of toothpastes in untidy array on poorly lit shelves cannot compete with well-stocked, neatly filled shelves of popular brand toothpastes in characteristically well lit, well merchandised grocery supermarkets.

The losses in these areas have been offset by excursions into other fields of merchandising. A large proportion of the volume of some retail outlets is accounted for by one-shot type promotions and seasonable merchandise. The lower economic and professional status of these pharmacists and pharmacies have discouraged truly professional activities of their stores and curtailed recruitment into the profession.

The economic necessity of continuing education, therefore, involves a continual refreshing and up-dating of the pharmacist's knowledge of over-the-counter medications in order to maintain the pharmacy as the legally restricted outlet for items requiring a degree of supervision by professionally trained individuals. A similar up-dating of his merchandising techniques is required to keep the pharmacy a preferred outlet for many items available to other merchants.

The continual change in business accounting requirements in regard to information required by the government, in addition to the statistical assistance increasingly required in store operation, makes a program of continuing education doubly important in this field. The rapid emergence of mechanical methods of accounting and inventory control pose new problems whose answers must be found

in the specialist educator fields since these are not explained in traditional methods from which most accounting training is now derived. Pharmacists will find it increasingly unsatisfactory to rely only on hired accountants to direct their accounting activities and increasingly important to keep up to the technical understanding of the operations of accounting.

Competitive pricing of merchandise cannot be on a casual meet-any-price situation but must be based on informed knowledge of the store's operation. The pharmacist must control pricing in order to accomplish the dual purposes of meeting competition, creating sales-stimulating specials and yet maintaining sales balance to produce a desired and logical profit commensurate with the capital investment and future capital requirements of the business.

Continuing education in accounting is required to maintain the pharmacist's ability to evaluate the different methods of prescription pricing being developed and to enable pharmacists as a group to present an informed, and thus more likely to be uniform, front in negotiating with government agencies in state medicine programs as they arise.

Mechanical devices for operating customer accounts, and indeed in many other branches of the business operation, require knowledgeable examination by retail pharmacists. A currently informed group of pharmacists can accelerate the utilization of time and money-saving equipment on a rental or shared cost basis to produce a greater, more up-to-date, statistically sound control over their operations. Continual education in accounting can maintain the required informed state to enhance the pharmacist's ability to meet competitors who are using, or will use, new methods to their advantage. Pharmacy has a commercial basis, as most pharmacists practice it, and it is vitally essential that the retail practising pharmacist be continually up to date in his knowledge of the commercial field as well as the professional and technical aspects of pharmacy practice.

Only by assuming full responsibility for maintaining both the dispensary and front store functions of retail pharmacies at the highest possible efficiency will pharmaceutical associations and educational bodies be fulfilling their obligation. This obligation is to bring about conditions which justify remuneration at a level that will attract the required high calibre of students into an economically as well as professionally satisfying field.

The pharmacist who does not continue his education soon becomes nothing more than an inefficient merchant rather than the "more than merchant" he has been accustomed to consider himself.

CURRENT PROGRAMS

The pattern of development of pharmaceutical education has been one of expansion by stages. As the gap between the amount of material to be learned and the amount being learned grew too wide, the various associations, national and provincial, have stimulated advances.

In the early stages of pharmacy, apprenticeship in the master's (teacher's) store served. This method did not keep pace with the requirements, as the pupil could not exceed the master's knowledge. Schools were developed where the teachers could devote their energies to keeping abreast of the advances of the profession.

In British Columbia in the late 1940's, the gap between available knowledge and amount taught widened due to the inability of the old style "private school" to keep up to the field without the facilities of research and teaching available from the university structure. This led to the inauguration of the Faculty of Pharmacy. In 1958 the three-year (after Senior Matriculation) course was felt to be inadequate and a four-year course was instituted as an option. The four-year course became mandatory in 1960.

Today the rapid advances in the scientific field have again widened the gap to where professions are finding their graduates obsolete almost at graduation. This challenge is being met by a new approach to education in which the emphasis is placed on the use of knowledge rather than the acquisition of a body of facts. Programs of continuing education are being developed to meet the requirements of keeping abreast of new knowledge. The heavy volume of work that is being done in continuing education is expressed in the words of Bernard V. Dryer, M. D., Study Director of a Joint Study in Continuing Medical Education, sponsored by a number of American associations and colleges, when he said that in this field one is plagued not with a scarcity of material but with the overwhelming volume of reports, of studies, research projects, reports of activities, etc. *

From this vast cauldron of activity we have separated the following specific areas as pertinent to this report and our B. C. requirements:

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* Lifetime Learning for Physicians, The Journal of Medical Education, June 1962, Vol. 37, No. 6, Part 2, p. 30.

(a) The B.C. Pharmaceutical Association program;
(b) The Continuing Medical Education program of the Faculty of Medicine, University of British Columbia;
(c) Hospital Pharmacist program;
(d) Dental Society program; and
(e) Survey of American activities as conducted by Professor F.A. Morrison, Assistant to the Dean, U.B.C.'s Faculty of Pharmacy, and Dean A.W. Matthews covering four universities available to their investigations and believed to best serve B.C. situation requirements.

The B.C. Pharmaceutical Association Program

The B.C. Pharmaceutical Association, through its Education Committee, has inaugurated several refresher programs in conjunction with the Department of Extension and Faculty of Pharmacy, University of British Columbia. These have included two-day refresher courses, twelve-lecture once-weekly evening courses, noon hour "Capsule College" Luncheons, summer school courses, one-day courses attached to Conventions, etc. All of these have met with some degree of success and yet the gap between what is known and what is taught has reached such proportions that the majority of pharmacists are not prepared to meet the obligations of their profession in the rapidly advancing fields of medication. Local groups in B.C. are setting up study groups, requesting correspondence courses, capsule college sessions, etc. These activities are repeated in other provinces of Canada and, as we shall report, all over the United States.

The Continuing Medical Education Program of the Faculty of Medicine, University of British Columbia

The Faculty of Medicine of the University of British Columbia has set up, under the directorship of Dr. D.H. Williams, a Department of Continuing Medical Education. This Department, now in its fifth year of operation, represents a rich source of information on methods and organizational details. They have achieved a remarkable success in presentation of material, developing teacher resources and in participation. In the 1963-64 year one-third of the practising members of the B.C. Medical Association took part in one or more of the organized programs of continuing medical education. In 1964-65 Dr. Williams is planning an evaluation program to ascertain the effect on the quality of treatment received by the patient as a consequence of the continuing education program. In brief, they have the organization, teaching resources, etc. to present continuously well patronized programs and now wish to determine how successful they have been in bringing about behaviour changes leading to better patient treatment and a higher level of professional excellence of the membership.

Regretfully, the vast difference of teaching resources between medicine and pharmacy (e. g. the Faculty of Medicine staff of over 400 compared to the Pharmacy staff of about ten) affect the applicability of some of continuing medical education findings to pharmacy. Happily, the excellent spirit of co-operation which has always existed between the respective Associations and the University Faculties of Medicine and Pharmacy together with Medicine's demonstrated wish to assist the neophyte pharmacy program augurs well for the future. It is anticipated that as pharmacy's program develops co-operative use of speakers and occasions should result in economies and efficiency of operation and an exchange of experience and knowledge to mutual advantage.

Hospital Pharmacist Program

Hospital pharmacists, too, are experiencing a "crossroads" situation. They can remain as technician-type operators, filling orders and manufacturing bulk supplies or they can rise to the professional challenge of pharmacy and take active roles in drug evaluation programs, research in new products and dosage forms, quality control, therapeutic advising, maintaining drug information centres, teaching, and operating in-service training programs.

The physical organizations of pharmaceutical associations can be utilized readily by the hospital pharmacists so that heavy burdens and organization expenses will be avoided for what is a relatively small segment of the pharmacist population (approximately 50 out of a total of about 1, 300 pharmacists in B. C.). Steps have already been taken in this direction in that the B. C. Society of Hospital Pharmacists is now represented on most of the committees of the B. C. Pharmaceutical Association and the Association is now sponsoring a two-day refresher course for hospital pharmacists along the same lines as a similar two-day course for general pharmacy practitioners.

Hospital pharmacists in large centres, where clinical trials and such activities would cause them to be ahead of the field in therapeutic knowledge, could be a rich continuing education source of teaching resources and subject matter for our general program.

Dental Society Program

Programs of continuing education can also serve well in group uniting functions. This is evidenced by the Vancouver and District Dental Society. This Society comprises a large proportion of the Vancouver and surrounding districts' dentists and is a voluntary organization having as its stated objectives:

(i) Encouraging fraternal relationships among its members;
(ii) Striving for higher standards of excellence in practice;
(iii) Contributing its part in the general scheme of health service; and
(iv) Co-operating with other societies having similar aims and objectives.

The programs of the Society are well oriented to educational activity and include monthly lecture meetings and study club activity involving monthly "clinic" meetings (September to May). The lecture meetings bring in paid speakers who employ slides, movies, closed circuit T. V. and various other techniques of presentation of advanced information in their special fields. The study groups are self-generated but may bring in outside speakers or demonstrators to display new techniques.

In effect, the Society is a group of study clubs organized to further the training of the members in the chosen fields such as gold inlay work, orthodontics, etc. These clubs are particularly suited to dental training problems as so much of their work is best demonstrated by office-clinic or small group demonstration techniques.

Survey of American Universities

A great deal of valuable information is available to our program of continuing education in the study of the activities and experiences of the American universities. Recognizing this fact, the Council of the B. C. Pharmaceutical Association commissioned Professor F. A. Morrison of the Faculty of Pharmacy of the University of British Columbia to make a study of extension and continuing education activities at:

The University of Wisconsin, Madison, Wisconsin;
The University of Rutgers, Newark, New Jersey; and
The University of Texas, Austin, Texas.

In addition, Professor Morrison reported on the University of Southern California and Dean A. W. Matthews reported on continuing education activities at the University of Florida.

The institutions were selected on the basis of their years of experience in the field, their organizational and administrative set-up (i. e. full-time or part-time personnel to conduct the program), their area and population distribution (e. g. Texas is similar to B. C. in distances, one-man pharmacies, etc.), and their accessibility to the surveyor.

The program descriptions and other literature from these U.S. sources indicate many and varied types of courses and subjects but little in the way of new methods not already being used by the B.C. Pharmaceutical Association.

Professor Morrison's conclusions were:

1. Continuing pharmaceutical education in the three states visited is organized, administered, financed to a large extent, and carried out by Schools of Pharmacy and the Extension Divisions of the respective universities.

2. The professional associations play a very minor role, if any, in the programs as presently organized.

3. All three states are examining the possibility of requiring some form of continuing education as a prerequisite to annual licensing. Wisconsin and New Jersey now require "Certification of Teaching Pharmacies".

4. The types of programs offered are similar in nature to the programs already offered by the Education Committee of the B.C. Pharmaceutical Association.

5. The viewpoint was frequently expressed that the professional associations should take the leadership in assisting and promoting, by every means possible, this important area of pharmaceutical education.

6. Continuing education should be a jointly sponsored program between the university and professional association. The organization within the university should be within the Faculty of Pharmacy and the Extension Division.

7. A program of continuing education, to meet the objectives of professional education, must be adequately staffed and financed, with provision made for time to carry out an extensive field program (re pharmacy visitations, recruitment, etc.).

OBJECTIVES

The objectives of a continuing education program must cover the basic requirements of the profession. It must act to bring about improvement of health care received by the public. It must contribute to maintaining the high professional status of the pharmacist and it must act to maintain the economic good health of the profession.

Two direct fields of activity in which it can function to accomplish these broad aims are the refreshing and continuance of education of practising pharmacists and the intern training program.

Who and where are the practising pharmacists, the potential clientele of a continuing education program?

There are approximately 1,300 practising pharmacists in the province. Of these, just over half are concentrated in the Pharmaceutical Association Districts 3 and 8 which take in the Lower Mainland corner of British Columbia including Vancouver, New Westminster, up to Squamish in the north and the Fraser Valley east to Hope. The balance are scattered over Vancouver Island (Greater Victoria has about 140) and elsewhere throughout British Columbia.

Included in the above are about 45 hospital pharmacists, 32 of whom are in the Greater Vancouver area, eight in Greater Victoria and five scattered elsewhere throughout British Columbia. Also included are about 15 in management capacities and some 20 "detail" men. In addition, there are about 50 pharmacists on the Non-Practising List (many also "detail" men) to whom could be added about 14 pharmacists on the Retired List (e.g. married women not working, "refugees" from British Columbia, etc.) who might later seek re-registration and become involved in continuing education programs.

The principal objective of continuing education must, of course, be to assure the competence of the practising professional, to maintain his mental abilities and skills, to stimulate positive interests and attitudes and to increase knowledge as technical advances require.

The content of a program of continuing education must be very carefully and continuously scrutinized. It must be always alert to, and ever investigating, the wants and needs of the members of the profession and must fulfill these to the maximum within the limits of its financial ability and the availability of teaching resources.

The main divisions of the content of such a program are:

(a) In the area of professional activity;
(b) In the realms of business administration and management; and
(c) In personal enrichment through general interest programs.

In the professional areas the program should be an extension or up-dating of the university courses covering the "pharmas", -ceutics, -cology, -cognosy, and chemistry, with periodic offerings of review courses to compensate for areas not covered or forgotten as academic backgrounds become deficient.

In the business areas the program must present new developments in accounting, merchandising, personnel and general management to meet the needs for these as they arise.

In the field of personal enrichment, general interest programs could be the icing on the cake of pharmaceutical educational presentations. A broad range of interests will give pharmacists a good public image where narrow business or professional-only interests limit their effectiveness in the social community.

As regards the intern training program, it has been recognized that because of the difficulty of duplicating at a university the "atmosphere" in activities, equipment, pressure of service needs, etc. both for hospital pharmacy and for retail pharmacy, some aspects of these realms must be learned in internship training on the job.

The need for thorough and competent training in these aspects, and to prevent the neglect of the training in some, has brought about the development of practical training manuals for retail and hospital pharmacists. A program of continuing education should oversee this training by visitations and interviews of both students and preceptors and by then assuring continual up-dating of the training program to meet both the interns' and preceptors' needs. Just as the conditions of practice cannot be duplicated in the university, so the understanding of the requirements of the manuals cannot be accomplished from the academic approach alone. Continuing education in intern training should utilize the consultive facilities of university and pharmaceutical association personnel but must operate in the actual area in which the student is being trained - in the "teaching" pharmacy itself.

RECRUITMENT

A program of continuing education becomes involved in several fields of recruitment. Because of its extra-mural activities, it can serve as a recruiting arm of the profession's program to gain students for the Faculty. It must be actively engaged in recruiting teaching resources for its own purposes. It must also recruit participants to its programs.

In recruiting students, continuing education must use its resources to stimulate pharmacists to look to the future of their profession by seeking to attract high calibre students into pharmacy. Activities of continuing education can and must seek out the reasons for negative attitudes amongst pharmacists. It must be prepared to meet these by action to correct false reasons or to bring about changes to counteract valid negative feelings. Attending well prepared courses leads to satisfactions in the learner which can encourage him to urge others to enter pharmacy.

As we shall discuss later under teaching resources, the program of continuing education will have to develop much of its teaching staff from the ranks of pharmacists. The increment to their own knowledge involved in preparing material for presentation to others, together with the improvement in self esteem resulting from such activities are satisfactions experienced by prominent pharmacists who are induced into sharing the knowledge which produced their successes. The existence of a program of continuing education generates "intra" and "inter" professional contacts which result in exchanges and development of teaching resources.

The recruiting of participants, or successful promotion of its program, is a major requirement of continuing education. Since one of the most effective tools is the satisfying experience of participants, recruitment is a greater challenge in the development stage of the program. The existence of continuing education as a program will stimulate interest in its activities. Bulletin announcements of its successes and other types of publicity should be used to convert interest into participation. At this point we should restate the need of adequate, well prepared presentations, even if these involve deficit budgeting in some instances. These to be covered by other presentations during the development period of continuing education. Unrewarding participation can make subsequent attracting to other presentations most difficult.

The many expressions of interest in continuing education and a growing realization of their individual needs would indicate that for some, recruitment to the program is a lesser problem than creating courses to meet the expressed need.

METHODS

The methods of operation must be adapted to meeting the need for continuing education and accomplishing its objectives while solving the difficulties of geographic isolation due to scattered outlets and virtual isolation of "one-man" pharmacies.

Educators tell us that adult education is a much older form of education than the schooling of children. Nevertheless, it is only quite recently that the field has been studied from the point of view of effectiveness of methods of teaching. In this report we have endeavoured to examine most thoroughly the techniques and devices presently available for taking information to small groups or single pharmacists cut off from most organized programs.

Direct Presentations

Lectures, panels, workshops, etc. are well established as methods and these will certainly be utilized whenever suitable groups can be assembled in the traditional manner. All the teaching aids available and useful to adult education will be utilized in these presentations when practical.

Tele-Lectures

Tele-lectures are a new technique applied to the lecture method of teaching. These consist of having the lecturer's voice carried by two-way telephone to a gathered group listening on a public address system. In this way isolated regions can benefit from the knowledge and lecturing ability of an otherwise unobtainable lecturer usually at considerable saving in costs. Advantageous timing is more easily accomplished also when a lecturer is not called upon to leave a busy desk.

The concurrent use of slides, course outlines, charts, etc. at the direction of the speaker gives a sense of participation to the listeners. These can be enhanced by showing slides or pictures of the lecturer in speaking postures. Skillful use of the question period by dividing it into intervals when the speaker calls for questions during the presentation, together with the informality of setting which is not usually possible in a formal lecture, may make this type of lecture preferable in effectiveness to the standard lecture.

Approximate costs for a ninety-minute lecture and question period between Vancouver and example cities are:

	Day	Night
Prince George	$49.60	$40.50
Calgary	$54.10	$45.00
Toronto	$85.50	$67.60

To these rates must be added the cost of installation of amplifiers, microphones, etc. The total costs are considerably less than transportation costs involved in bringing a qualified speaker those distances plus the economies of lodging, loss of time from usual occupation, etc. Economy is second to the obvious advantage of the increased likelihood of obtaining the services of top calibre men and matching their available time to suitable meeting times of pharmacists.

Tape Recorded Lectures

Tape recordings have great usefulness in taking lectures to isolated groups at suitable times. Tape recordings alone have the serious deficiency in that direct questions and answers cannot be incorporated into a presentation.

To be most effective, tape recordings are best presented by a previously informed instructor or organizer who can make references to texts and other material or, if necessary, volunteer to contact source information and bring answers back. Valuable lecture time and expensive telephone time could both be saved by utilizing a tape recorded lecture followed by a "live" telephone contact question and answer period. This combination would serve well in repetitions of a lecture in scattered communities or in presentations to numerous small groups such as pharmacists of a city who cannot be readily assembled in large groups due to shifts, one-man operations and such obstacles. A function of a program of continuing education should be to gather and prepare current series of useful recordings.

The Canadian Pharmaceutical Association, for example, has a tape recorded lecture available on corticosteroids produced by the British Pharmaceutical Society as one of a series of lectures made available about two years ago. Equipment and skills readily available from the University of B. C. 's Extension Department make the recording of otherwise difficult-to-repeat lectures very simple and practical.

Educational Television

Closed circuit television is presently readily available from the telephone companies. This is already a useful device for bringing a large audience close to otherwise inaccessible activities. Medical education uses this medium to present operations to audiences in distant large centres. B. C. Dental Society clinics use it to bring each watcher in a large audience right into the small field of activity represented by a patient's mouth.

Video-tape programs are, as yet, too technically difficult to produce and the equipment involved is too costly for any group much smaller than a broadcasting corporation to utilize. It is predictable that just as the home movie

brought motion pictures to small group users, so equipment will be devised to bring video-tape production into similar use. When this situation is achieved it will be a simple matter to preserve and transport the visual participant qualities of any lecture or similar program to any group able to gather about a television set.

Films and Slides

The use of films and slides is well established in education. The problem for continuing education in these media is one of selection to avoid the use of irrelevant material or material above or below the level of comprehension of the recipients in terms of content. The organizational problems involved in obtaining films, projectors, etc. are mastered by the services of the University Extension Department, high schools and other organizations as both slides and movies are frequently used. The main drawback usually pointed out is the low level of retention of information and the need for facilities to recall the information presented for subsequent review. The use of these devices by themselves is considered very unsatisfactory and as a consequence they should be used only to augment a speaker's material or to provide a change of pace in presentation. It is felt that a talk by some recognized speaker, for example a well informed local pharmacist, should accompany all films and slides.

Because of film's ability to give real life presentations, it is used to influence changes in values and attitudes. It is easier for the viewers to associate themselves with the actors on a screen than it is for them to relate their personal values and attitudes to the comments of a lecturer, regardless of how vividly he might present the word pictures.

Self Education

The studious habit of reading professional literature is the most readily available process of education. Unfortunately it is perhaps the most difficult to establish and maintain. Continuing education must play the role of the prod that is the necessary ingredient to blending a process of self education.

Some manufacturers present excellent technical papers and product descriptions to inform the profession on the use, hazards and merits of their products. The "Medical Letter" is a highly recommended source of impartially evaluated material. Pharmaceutical and allied associations present valuable technical information in their journals.

The vastness of the literature and the costs involved as to time consumed and subscription fees suggest the use of some sort of newsletter or other publication by continuing education. This would inform the busy pharmacist of the most useful literature and refer him to specifically valuable articles.

It might possibly develop an abstracting service to make lengthy material more available or to present the general content of articles difficult to obtain in most pharmacies. Continuing medical education encourages physicians to spend one hour per day in meaningful reading. A similar goal is to be recommended for pharmacists.

Study Groups

Literature study clubs and living room learning groups are being used by continuing medical education, by the B.C. Dental Society and by churches and numerous other organizations to facilitate learning from printed material of all sorts. These groups operate by assigning reading programs to the members of the group and then discussing the content of the material and the reactions of the readers as they report to the group.

Such clubs or groups are proportionately easier to set up than are other educational methods. The program is readily available to small groups at their own convenience as to time and place and thus has much to offer pharmacists. Many are discouraged by lack of time, costs of subscriptions, etc. and by their lack of background knowledge which could be gained from adequate reading of the voluminous literature available on all aspects of pharmacy.

Continuing education can sow the seeds of such group activity and should be available with suggestions of success-bringing topics and methods as the seeds sprout. The success of a group is directly proportional to the quality of preparation for the activity. Aims and objects must be clearly defined. Suitability and availability of material to these aims must be assured. In the discussion the ability and experience of the leader is very significant. He must guide the discussion along useful channels avoiding straying and personality clashes that have shattered many groups. He must bring all the members into sharing the satisfactions of achievement in the group. Continuing education should encourage leaders of these groups through training programs, thereby improving the groups themselves and cultivating resources for other educational activities.

Correspondence Courses

The use of correspondence courses is an older method which has several advantages from the point of view of the learner. These courses are available wherever the mails travel. They can be picked up and laid aside as free time dictates.

Continuing medical education and others using this method have found it very costly from the point of view of initial preparation and maintaining up-to-date useful courses and also in the involvement of educators in marking and following up shortcomings in learners' accomplishments.

The available courses should be continually surveyed and where the material answers specific needs, particularly of individuals or small groups isolated from more direct presentations, these should be utilized.

Programed Instructions

Programed instruction is a form of self education. This technique consists of printed statements and response questions and answers designed to progress in easy stages in learning usually with back tracking devices to correct false responses. The illustration following is an example of such a simple program with its objective being to explain the use of oral contraceptives. *

The advantages of this type of instruction for busy pharmacists are:

(a) May be read in odd moments;
(b) Not requiring a set-up of equipment, it may be set aside and resumed readily;
(c) Does not require an instructor;
(d) Does not require marking and indeed has an advantage in giving immediate appraisal of the learner's progress before proceeding to the next stage; and
(e) Involves little cost in supplying the material to pharmacists in any geographic region after the initial cost of preparing the program.

The initial cost can be quite high since some skill and training is required in the preparation of courses. In the early development of programed learning great emphasis was placed on the need for machines to manage the presentation of statements and questions and answers with facilities to change direction of the program to adjust for deficiencies in the learner which bring about wrong answers. As the technique is settling down to its proper perspective and divorced from vendors of machines, simple non-machine programs are proving very effective.

Co-operation between the Education Committee of the national association of pharmacy and the provincial and regional committees should be utilized to pool resources in seeking out or preparing suitable programs. The greatest weakness of this technique is the lack of suitable pharmacy-oriented programs and the difficulties of having new information produced in this form.

That this would be worthwhile is indicated in the results of a survey of physicians taking part in a programed course on Allergy and Hypersensitivity: *

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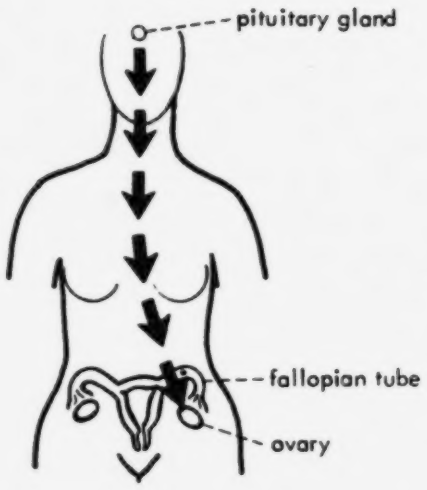
* Introduction to Programed Instruction: Basic Systems Incorporated, 2900 Broadway, New York 25, N.Y.

TEACH YOURSELF HOW ORAL CONTRACEPTIVES WORK



1. In order for fertilization to take place, the ovary must first ovulate (release an egg into the fallopian tube).

   Find the released egg in the diagram.

   The diagram represents a situation in which fertilization ☐ can ☐ cannot take place.

   can

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2. In order for ovulation to occur, the hormones FSH and LH must both be present in the bloodstream.

   As the diagram shows, FSH and LH are produced by the ☐ pituitary ☐ ovary and act on the ☐ pituitary ☐ ovary to bring about _____.

   pituitary
   ovary
   ovulation

---

3. One could prevent ovulation by preventing the pituitary gland from producing the hormones _____ and _____.

   LH and FSH

---

4. Two hormones which inhibit the pituitary from producing FSH and LH are estrogen and progesterone. When the hormones _____ and _____ are present in the bloodstream in adequate quantities, the pituitary ☐ can ☐ cannot produce FSH and LH, and ovulation ☐ can ☐ cannot take place.

   estrogen
   progesterone
   cannot
   cannot

---

5. The hormones FSH and LH ☐ stimulate ☐ inhibit ovulation.

   stimulate

---

6. The hormones estrogen and progesterone ☐ stimulate ☐ inhibit the pituitary's production of FSH and LH.

   inhibit

---

7. Oral contraceptive pills act like estrogen and progesterone.

   When oral contraceptives are present in the bloodstream, the pituitary's production of FSH and LH is ☐ stimulated ☐ inhibited and ovulation ☐ can ☐ cannot occur. Fertilization therefore ☐ can ☐ cannot take place.

   inhibited cannot
   cannot

---

8. Generally a woman ovulates once every month because the levels of estrogen and progesterone in the blood have ☐ risen above ☐ fallen below those necessary to inhibit FSH and LH production.

   fallen below

---

9. If a woman takes one oral contraceptive pill daily, the levels of the oral contraceptives will remain high enough so that the woman will ovulate ☐ once a month ☐ not at all.

   not at all

---

10. Explain how oral contraceptives work, using the following terms:

    estrogen and progesterone
    pituitary
    FSH and LH
    ovulation
    fertilization

    Your answer should include the following points: Oral contraceptives act like estrogen and progesterone. They inhibit the pituitary from producing FSH and LH, which are necessary for ovulation and fertilization to occur.

Did you like the course?

97% of total	- Yes
99% of general practitioners	- Yes
100% of specialists in allergy	- Yes

In comparison with the same amount of time spent on other forms of educational reading matter or instruction, do you find this type of review of more, equal or less value?

76% - More value
21% - Equal value

Would you like to receive other subjects for review in this form?

96% of total	- Yes
98% of general practitioners	- Yes

Some discounting of these results might be necessary due to the commercial interests of the source. However, a general survey of this method indicates that experts feel it can cut learning time by 30% to 50% which, when considered with the ease of utilization, makes it an attractive technique not adequately utilized at present and likely to grow in advantages as it gains in general use.

Store Visitations

A useful method of considerable importance, particularly in the development stages of continuing education programs, is visitations. Faculty and Association personnel should be utilized on all possible occasions to visit individual pharmacists and pharmacist groups to present the need and advantages of keeping up, particularly since one's falling behind is not always recognized by the group or individual involved. These visitations can serve also as follow-up investigations of the usefulness and acceptance of programs presented. Efficiency and economy would be served when such calls are combined with assessment of a store's acceptability for intern training and appraisal of the pharmacist involved as to his suitability as a preceptor.

Conclusion

The continuing education program must continually evaluate the flood of materials and methods available, select the most applicable, encourage their use and build up demand and acceptance resulting from the beneficial experience of recipients of worthwhile presentations. The principle of success breeding success is sharply evident in any aspect of adult education where the learner has the

maturity and freedom to accept or reject information as it meets or fails to meet his requirements. In this respect one can say that a poor program is not preferable to no program at all. We shall elaborate on this in discussing the phasing of a continuing education program.

TEACHING RESOURCES

Continuing education competes with the University's demand for high levels of research and regular teaching commitments. The teaching resources of the relatively small Faculty of Pharmacy must therefore be supplemented from other fields.

Courses in special fields of medication and in special phases of store or other branches of operation can be given very well by specialists working in the fields when the services of these specialists can be obtained. Another important source of teaching staff is the use of recent graduates and members who have had particular successes in any part of their endeavours. The pharmaceutical industry will also be called upon to supply speakers on various aspects of pharmacy.

In the commercial and staff training fields valuable contributions have been made by cosmetic companies and others in their endeavours to improve the presentation of their merchandise by pharmacy. Excellent courses in business administration and salesmanship are available from school board night classes.

It would be a function of continuing education to utilize the speakers and material of these sources in its programs or, where more suitable, to appraise and recommend useful outside programs to pharmacists and staff.

A doubly important source of teaching personnel is amongst the members of the profession itself. The double importance lies in the personal enrichment and gain of knowledge experienced by anyone preparing and giving an informational talk and the stimulating effect on others in the audience on being made aware of the ability of their confrere. This source of teaching resources has been mentioned in discussing study groups. In such groups the necessity and advantages of utilizing group members in the teaching roles is self evident. The public relations aspect of medical group contacts and possible press statements of such activities can have a very beneficial effect on the professional image of pharmacy. This is the type of activity which will lead to therapeutic advisor roles and other professionally satisfying activities which will attract high calibre students to pharmacy.

ORGANIZATION

How should the continuing education program be organized? Various methods of organization present themselves. These differ primarily in the location of the administrative authority. Should such a program be administered by the Faculty of Pharmacy, by the Department of University Extension or by the Pharmaceutical Association?

Traditionally the licensing associations are charged with the responsibility of measuring competence as a prerequisite to licensing. It follows, then, that the same body should be responsible for providing the means to maintain competence. Further, it is desirable that such a program be completely oriented towards the types of further training required in the actual field of practice. It may therefore be concluded that the administration and policy-making functions of continuing education should be vested in the Association. This view is supported by the experiences of the American programs studies which were under the auspices of universities. They suggested, as we have reported, that continuing education programs should be under the sponsorship of the licensing bodies.

Two contacts are desirable from the functioning point of view. These are with the University Extension Department, to assure utilization of the know-how and services in organizing adult programs, and with the Faculty of Pharmacy for their teaching resources. The latter is a two-way gain situation in that the continuing education program gains lecturers of competence in the pharmaceutical field and the Faculty benefits from the feed-back of information from the practising field.

Meeting organization problems of this tri-oriented concept requires the full-time appointment of a Director of Continuing Education whose activities are involved with the Faculty of Pharmacy and the University Extension Department but who is, as an appointee of the B.C. Pharmaceutical Association, responsible to the Council and members of the Association.

It is further suggested that other useful Association functions which can be advantageously carried on by this Director are: to act as staff member of the Education and Professional Relations Committees of the Association, and to supervise the practical training program, assessing intern training facilities and activities carried on by teaching pharmacies.

The Director can also serve well as a "liaison officer" between the Faculty, the Association and the University Extension Department. Some sharing of salary costs might be assumed by the Faculty who could use his services in lecture presentations of practical store-oriented courses such as commerce, store design and layout, law and ethics, etc. in the degree that the Director can be trained and equipped to meet such assignments.

FINANCING

Ideally, a program of continuing education should be self-financing. For a relatively small Association of only 1,300 members, however, it would be virtually impossible to achieve this ideal in the early stages of developing such a program. Hence some "pump priming" assistance must be sought.

As indicated in the Foreword, the study upon which this report is based was substantially assisted by funds from National Health Grants and the Canadian Foundation for the Advancement of Pharmacy. The sponsoring body, the Pharmaceutical Association of the Province of British Columbia, provided the balance of funds required to undertake the study.

It is contemplated that further assistance will be necessary for a period of some three years in order to afford the program an adequate period of operation to become sufficiently successful to be financially self-sustaining. On-going assistance is therefore being sought for the period 1965-68. Approval of assistance over this period has already been obtained from National Health Grants and foundation applications are pending. The possibility is also anticipated of financial participation in the program by the Faculty of Pharmacy, by way of partial assumption of the salary cost of the Director.

All such assistance and added subsidizing funds from the Association are designed only for meeting the administrative costs of the program - salaries, accommodation, travel, secretarial services, equipment, stationery, etc. - during its initial "building" period. From the outset refresher courses and seminars, "Capsule Colleges" and correspondence courses, and so on, must be established on a self-paying basis. Over the three-year building period it is contemplated that the modest surpluses which will be budgeted for in planning various courses and the increased frequency of courses by 1968 will enable the continuing education program for pharmacists in British Columbia to virtually stand on its own "financial legs" thereafter, though support from the Association and Faculty will probably continue to be required to meet salary costs.

Budgeting to establish course fees will not be the simple matter it appears to be due to the geographic distribution of pharmacists in the province. The cost of staging a three-speaker panel in, say, Fort St. John for a relatively small number of pharmacists compared to a similar program in Victoria would be very high. It would hardly be feasible to expect the few pharmacists in Fort St. John and adjacent communities to wholly finance a program in that centre, whereas the cost of such a program in a more populous centre would be extremely nominal because of the lower time and travelling costs involved as well as the larger group of potential participants. It will therefore be necessary to budget

courses on the basis of the overall program, with individual programs in larger and more accessible areas subsidizing to some degree the service to smaller and more remote areas.

As indicated in other sections of this report, continuing education is a "must" for pharmacists in this area of exploding knowledge. It must be made available, it must be utilized and it must be paid for. The willingness of agencies outside pharmacy to devote their financial resources to assist us bears mute evidence to the importance attached by others to the necessity of continually up-grading the pharmacist's knowledge. We can do no less than they in recognizing the need and moving to meet it.

PHASING AND EVALUATION

The timing or phasing of development of continuing education programs is of great importance. Programs must be timely in that they meet needs and problems as these arise. New techniques of medication and merchandising methods are continually being developed. New courses and programs must be set up to meet the consequent need.

Great care must be exercised to avoid, in the rush to get programs going, any temptation to set up courses and activities not adequately planned. Poorly planned programs accomplish little in presentation and lead to discouraging subsequent participation in all programs. Present programs must be maintained and enlarged upon to assure co-operation and continuity.

An essential part of good planning to generate successful programs is the conduct of adequate surveys in advance. These may be person-to-person contacts or questionnaires, etc. to allow tailoring of the materials to meet the needs of the recipient. No programs should be undertaken until all possible checking has been done to assure their fitting the requirements.

Recording facilities should be set up in the Association office to ensure that participation becomes part of the record of each pharmacist. The information in such records would become qualifying requirements for preceptors and assisting data in assessing a retired member's right to return to active membership with or without re-examination or re-schooling. Employers should also find such records useful in measuring a possible employee for a specific type of pharmacy requirement.

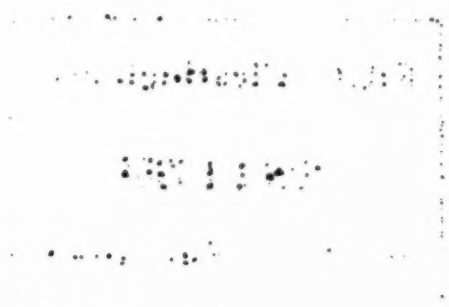
Specific program planning would include carrying on or enlarging the present educational activities. A goal for the first year would be to bring each British Columbia pharmacist at least one opportunity to take part in some form of group educational activity. The second year should see the group activity increased to at least twice a year and also the development of local talent in operating such programs. By the third year a possible refinement of the general activity might well include special series of courses either at U. B. C. or in strategic centres to further improve the quality of activity of group leaders and to incorporate university staff directly into such programs.

Concurrent with this three-year phasing it is proposed that bulletin announcements, likely enlarging to some sort of reasonably regular Continuing Education Bulletin, would be developed to publicize, co-ordinate and direct continuing education activities.

An important part of all programs, if they are to lead to the continuity success requires, is some process of evaluating results to:

(a) Ascertain the degree of acquisition of information;
(b) Evaluate the retention of information;
and
(c) Measure the attitude changes and to ensure these changes being in the direction of expansion of professional excellence and desire to continue in programs.

All courses and programs should be followed by questionnaires allowing free expression of the participant's reactions. These responses must be solicited in a manner which will ensure the receiving of favourable and unfavourable comments in accurate proportions and in adequate volume to make future planning based on them truly meaningful. The offices of all directing bodies in pharmacy must be ever alert to comments and evaluations and ever active to profit by and acknowledge such responses.



CONCLUSION

Pharmacy is like a car stalled in the snow. People standing about with their hands waving in the air can't push and people pushing can't be heaving mightily if their mouths are wide open in loud complaining. No progress is likely unless a mutual understanding assures that all have decided on the best direction to push and are employed in that manner. Likewise, much effort can be wasted if all available assistance is not utilized and if lack of planning fails to eliminate road blocks which might otherwise impede progress. In applying the power, sudden wasteful spurts are not effective where steady, gradually increasing force succeeds. Chains and freedom-restricting snow tires (regulations on pharmacists) which may seem burdensome when the going is smooth on clear roads are essential in avoiding trouble when the snows of opposition and competition fall.

A program of continuing education, well conceived, carefully planned, enthusiastically executed and widely utilized may well be the snow plough needed to guide pharmacy's car to the clear ground of professional excellence and economic success and to unify its passengers.

ERIC Clearinghouse

JUN 1 1 1968

on Adult Education